

APS SEARCH: 08/336,335

=> s 82/clas or 364/clas or 409/clas or 451/clas
 14911 82/CLAS
 57815 364/CLAS
 16207 409/CLAS
 41701 451/CLAS
 L1 124962 82/CLAS OR 364/CLAS OR 409/CLAS OR 451/CLAS

=> s l1 and (lath? or turn?)
 12628 LATH?
 821890 TURN?
 L2 38253 L1 AND (LATH? OR TURN?)

=> s l2 and (reciproc? or oscilat? or vibrat? or frequenc?)(3a)(tool? or work?)
 147950 RECIPROC?
 752 OSCILAT?
 138755 VIBRAT?
 297047 FREQUENC?
 181990 TOOL?
 531227 WORK?
 10475 (RECIPROC? OR OSCILAT? OR VIBRAT? OR
 FREQUENC?)(3A)(TOOL? OR
 R W
 ORK?)
 L3 1090 L2 AND (RECIPROC? OR OSCILAT? OR VIBRAT? OR
 FREQUENC?)(3A)(
 TOO
 L? OR WORK?)

=> s l3 and cut?
 535537 CUT?
 L4 775 L3 AND CUT?

=> s l4 and (sin?)(2a)(wave or curve)
 UNMATCHED LEFT PARENTHESIS 'AND (SIN?'

=> s l4 and (sin?)(2a)(wave or curve)
 TERM 'SIN?' EXCEEDED TRUNCATION LIMITS - SEARCH ENDED

=> s l4 and (wave or curve or harmonic)
 157739 WAVE
 166500 CURVE
 18355 HARMONIC
 L5 206 L4 AND (WAVE OR CURVE OR HARMONIC)

=> s l5 and (computer or control)
 146734 COMPUTER
 872360 CONTROL
 L6 175 L5 AND (COMPUTER OR CONTROL)

=> d 1-175

1. 5,453,931, Sep. 26, 1995, Navigating robot with reference line plotter; James R. Watts, Jr., **364/424.02**; 180/8.5, 168; 395/80 [IMAGE AVAILABLE]

2. 5,447,463, Sep. 5, 1995, Apparatus for microfinishing; Heinz G. Schmitz, **451/14**; **10**; **49**; **172** [IMAGE AVAILABLE]

3. 5,418,731, May 23, 1995, Numerical **control** unit for non-circular workpiece fabricating machine; Tatsuhiko Yoshimura, et al., **364/474.31**; 318/573; **364/474.06** [IMAGE AVAILABLE]

4. 5,406,494, Apr. 11, 1995, Numerical **control** system with operator controlled **cutting**; Todd J. Schuett, **364/474.3**; 318/569; **364/474.28** [IMAGE AVAILABLE]

5. 5,402,354, Mar. 28, 1995, **Control** apparatus and **control** method for machine tools using fuzzy reasoning; Fumito Okino, et al., **364/474.16**; **474.06**; 395/904; **451/5** [IMAGE AVAILABLE]

6. 5,396,434, Mar. 7, 1995, Machining-error correcting method used for a non-circular shape machining apparatus; Hiroshi Oyama, et al., **364/474.35**; 318/570, 573; **364/474.31** [IMAGE AVAILABLE]

7. 5,390,408, Feb. 21, 1995, Slotting; Arthur E. Bishop, et al., 29/558, 890/132; **409/244**; **293** [IMAGE AVAILABLE]

8. 5,357,439, Oct. 18, 1994, Custom-made manufacturing system and custom-made manufacturing method; Kichie Matsuzaki, et al., **364/468**; **188** [IMAGE AVAILABLE]

9. 5,348,008, Sep. 20, 1994, Cardiorespiratory alert system; Robert Born, et al., 128/642, 644, 671, 696, 710, 903, 904; **364/413.02** [IMAGE AVAILABLE]

10. 5,347,763, Sep. 20, 1994, Polishing apparatus; Masahiko Miyamoto, et al., **451/241**; **36** [IMAGE AVAILABLE]
11. 5,336,024, Aug. 9, 1994, Precision drilling method; Teruo Nakagawa, et al., 408/1R; **364/474.16**; **474.19**; 408/8, 13 [IMAGE AVAILABLE]
12. RE 34,663, Jul. 19, 1994, Non-invasive determination of mechanical characteristics in the body; Joseph B. Seal, 128/774, 649, 677; **364/508** [IMAGE AVAILABLE]
13. 5,323,324, Jun. 21, 1994, Yarn tension **control** system; Lars-Bernt Fredriksson, **364/470**; 139/452; **364/138** [IMAGE AVAILABLE]
14. 5,321,350, Jun. 14, 1994, Fundamental frequency and period detector; Peter Haas, 324/76.11; **364/484** [IMAGE AVAILABLE]
15. 5,317,943, Jun. 7, 1994, Method and apparatus for ultrasonically **cutting** mat board; Barton K. Dowdle, 83/56, 100, 577; **409/132** [IMAGE AVAILABLE]
16. 5,305,556, Apr. 26, 1994, Method and apparatus for shaping the interior surfaces of bores; Oswald Kopp, et al., **451/165**; **27**; **124** [IMAGE AVAILABLE]
17. 5,289,660, Mar. 1, 1994, Method and apparatus for grinding non-circular workpiece; Fumitoshi Terasaki, et al., **451/49**; **5**; **228** [IMAGE AVAILABLE]
18. 5,287,280, Feb. 15, 1994, Method and apparatus for controlling shoe slip of crawler vehicle; Shigeru Yamamoto, et al., **364/426.03**; 180/197; **364/424.07** [IMAGE AVAILABLE]
19. 5,251,151, Oct. 5, 1993, Method and apparatus for diagnosing the state of a machine; Victor Demjanenko, et al., **364/550**; **508**; **551.02** [IMAGE AVAILABLE]
20. 5,245,793, Sep. 21, 1993, Method and apparatus for fine working or microfinishing; Heinz G. Schmitz, **451/49**; **14** [IMAGE AVAILABLE]
21. 5,239,978, Aug. 31, 1993, Oscillatory abrasive cable power saw; Gus F. Plangeitis, 125/16.01; 83/651.1; 125/19; **451/356**; **454** [IMAGE AVAILABLE]
22. 5,187,669, Feb. 16, 1993, Programmable surface sensor for machining rough stock; Douglas G. Wildes, et al., **364/474.17**; **474.16** [IMAGE AVAILABLE]
23. 5,186,695, Feb. 16, 1993, Apparatus for controlled exercise and diagnosis of human performance; Glen Mangseth, et al., 482/6; 73/379.06; **364/413.02**; 434/247; 482/4, 51, 900, 902, 903; 601/26, 33 [IMAGE AVAILABLE]
24. 5,165,205, Nov. 24, 1992, Device for vibrating materials to be ground; Takeo Nakagawa, et al., **451/392**; 366/108, 111; **451/272** [IMAGE AVAILABLE]
25. 5,148,372, Sep. 15, 1992, Interactive graphic system for the mathematical representation of physical models; Roberto Maiocco, et al., **364/474.24**; **474.37**; **551.02** [IMAGE AVAILABLE]
26. 5,144,773, Sep. 8, 1992, Honing or grinding tool and measuring device for measuring wear; Gerhard Flores, et al., **451/8**; 73/104; 407/119; **451/540**; **544** [IMAGE AVAILABLE]
27. 5,125,188, Jun. 30, 1992, Grinding wheel having grinding monitoring and automatic wheel balance **control** functions; Koji Ogawa, et al., **451/5**; 74/573R, 574; **451/6**; **7**; **10**; **21**; **343** [IMAGE AVAILABLE]
28. 5,117,180, May 26, 1992, Method and apparatus for measuring RMS values; Ronald L. Swerlein, 324/132; 327/349; **364/483** [IMAGE AVAILABLE]
29. 5,113,728, May 19, 1992, Method and apparatus for forming intermittent chips when machining a rotating workpiece; Ludwik A. Medeksz, **82/1.11**; **134**; **137**; **904**; 408/1R, 17 [IMAGE AVAILABLE]
30. 5,109,417, Apr. 28, 1992, Low bit rate transform coder, decoder, and encoder/decoder for high-quality audio; Louis D. Fielder, et al., 381/36; **364/715.04**; **748**; 375/240; 381/29; 395/2.12, 2.14, 2.33, 2.38 [IMAGE AVAILABLE]
31. 5,101,599, Apr. 7, 1992, Ultrasonic machine having amplitude **control** unit; Hideki Takabayasi, et al., **451/165**; 83/701; 173/11; **451/11**; **910** [IMAGE AVAILABLE]
32. 5,100,270, Mar. 31, 1992, Apparatus and method for **cutting** mat

board; Robert K. Dowdle, et al., **409/132**; 83/100, 956; 144/252R; **409/137**, **192**, **202**, **203** [IMAGE AVAILABLE]

33. 5,076,020, Dec. 31, 1991, Apparatus for in-situ dressing of threaded grinding wheels used in gear grinding machines; Roberto Negri, **451/21**; 125/11.02, 11.13; **451/56**, **72** [IMAGE AVAILABLE]

34. 5,058,437, Oct. 22, 1991, Determining the quantity yield of a compressible fluid flowing through a pressure reducing valve; Claude Chaumont, et al., 73/861.21; **364/510** [IMAGE AVAILABLE]

35. 5,054,340, Oct. 8, 1991, Apparatus for machining a non-circular workpiece; Kazuhiko Sugita, et al., **82/18**, **118**, **137**, **904** [IMAGE AVAILABLE]

36. 5,050,468, Sep. 24, 1991, Method and apparatus for **cutting** a circumferential serpentine groove in a workpiece using an engine **lathe**; James D. Nydiger, **82/1.11**, **18**, **118**, **134**; **364/474.02** [IMAGE AVAILABLE]

37. 5,042,335, Aug. 27, 1991, Method and apparatus for manufacturing a body with a surface of revolution at its end with the axis thereof aligned with an axis of the body; Moreno Ciboldi, et al., **82/117**, **118**, **903**, **904**; **451/6** [IMAGE AVAILABLE]

38. 5,018,913, May 28, 1991, Device for controlling the tool position depending on the stroke position; Walter Seiberlich, **409/34**, **60**, **334** [IMAGE AVAILABLE]

39. 5,010,491, Apr. 23, 1991, Automated system for machining parts to close tolerances; Alberto Biasillo, et al., **364/474.28**, **167.01**, **474.06**, **474.37** [IMAGE AVAILABLE]

40. 5,010,224, Apr. 23, 1991, Very small orifice manufacturing system; Roy D. Shirey, et al., 219/69.17; 73/4R, 37.5; **364/474.04**, **552**; 408/2 [IMAGE AVAILABLE]

41. 5,001,649, Mar. 19, 1991, Linear power **control** for ultrasonic probe with tuned reactance; Ying-Ching Lo, et al., **364/484**; 310/316; 323/205, 206; 324/727; 331/1R, 36R, 181; **364/481** [IMAGE AVAILABLE]

42. 4,999,954, Mar. 19, 1991, Polishing apparatus; Masahiko Miyamoto, et al., **451/5**; **277** [IMAGE AVAILABLE]

43. 4,984,394, Jan. 15, 1991, Method and apparatus for grinding straight-edged **cutting** tools to a fine finish; Hiromi Suzuki, et al., **451/5**; **24**, **160**, **259**, **278** [IMAGE AVAILABLE]

44. 4,974,368, Dec. 4, 1990, Polishing apparatus; Masahiko Miyamoto, et al., **451/159**, **99**, **276**, **280** [IMAGE AVAILABLE]

45. 4,970,656, Nov. 13, 1990, Analog drive for ultrasonic probe with tunable phase angle; Ying-Ching Lo, et al., **364/481**; 73/589, 648; 310/316; 318/116; 323/208, 211; 331/36R; **364/484** [IMAGE AVAILABLE]

46. 4,958,286, Sep. 18, 1990, Time-variant filter coefficients; Wallace H. Meyer, Jr., **364/422**; 73/151; 324/338, 339 [IMAGE AVAILABLE]

47. 4,954,960, Sep. 4, 1990, Linear power **control** for ultrasonic probe with tuned reactance; Ying-Ching Lo, et al., **364/484**; 318/729; 323/205, 208; 324/654; 331/181; **364/482**, **571.01** [IMAGE AVAILABLE]

48. 4,947,715, Aug. 14, 1990, Method and apparatus for **cutting** an aspheric surface on a workpiece; Buford W. Council, Jr., **82/1.11**, **12**, **18**, **142**, **147**, **451/42**, **277** [IMAGE AVAILABLE]

49. 4,936,052, Jun. 26, 1990, Machine and method of grinding molding die; Noboru Nagase, et al., **451/152**, **99**, **127**, **160**, **913** [IMAGE AVAILABLE]

50. 4,928,561, May 29, 1990, Method and apparatus for ultra-precise machining applied to executing atypical surfaces of revolution and to servo-controlled machining; Claude Fouche, **82/1.11**, **147**; 310/90.5 [IMAGE AVAILABLE]

51. 4,918,616, Apr. 17, 1990, Tool monitoring system; Kiyokazu Yoshimura, et al., **364/507**; 73/587; 340/680; **364/474.17**, **474.37**, **508**, **551.02** [IMAGE AVAILABLE]

52. 4,911,044, Mar. 27, 1990, Ultrasonic vibration **cutting** device; Shoji Mishiro, et al., **82/158**, **160**, **904** [IMAGE AVAILABLE]

53. 4,896,460, Jan. 30, 1990, Rail grinding machine; Josef Theurer, et al., **451/347** [IMAGE AVAILABLE]

54. 4,884,941, Dec. 5, 1989, Active compliant end-effector with force, angular position, and angular velocity sensing; Hormayoon Kazerooni, 414/744.5; 74/479.01; 414/917; **451/5**, **11**, 901/9, 41, 45 [IMAGE AVAILABLE]

AVAILABLE]

55. 4,884,482, Dec. 5, 1989, Method and apparatus for **cutting** an aspheric surface on a workpiece; Buford W. Council, Jr., **82/1.11**, **12**, **18**, **142**, **147**, **451/5**, **42** [IMAGE AVAILABLE]

56. 4,845,900, Jul. 11, 1989, Method and apparatus for grinding straight-edged **cutting** tools to a fine finish; Hiromi Suzuki, et al., **451/5**, **45**, **160**, **262** [IMAGE AVAILABLE]

57. 4,839,814, Jun. 13, 1989, Size independent modular web processing line and modules; Leonard R. Steidel, **364/469**; 101/248; 226/29, 111 [IMAGE AVAILABLE]

58. 4,837,506, Jun. 6, 1989, Apparatus including a focused UV light source for non-contact measurement and alteration of electrical properties of conductors; Joseph M. Patterson, 324/752; 250/311; **364/571.01** [IMAGE AVAILABLE]

59. 4,821,205, Apr. 11, 1989, Seismic isolation system with reaction mass; Herman P. Schutten, et al., **364/508**; 248/550, 638 [IMAGE AVAILABLE]

60. 4,817,268, Apr. 4, 1989, Method of and arrangement for exchanging tool holders in working units for working of workpieces; Hans-Ulrich Jaisle, et al., 483/1; 29/26A, 426.1, 426.3; 408/35; **409/201**; 414/744.4; 483/32, 53, 56 [IMAGE AVAILABLE]

61. 4,807,167, Feb. 21, 1989, Rapid method of digital automatic gain **control**; Ben A. Green, Jr., **364/571.04**; 330/284; 340/683; **364/508** [IMAGE AVAILABLE]

62. 4,805,111, Feb. 14, 1989, Size independent modular web processing line and modules; Leonard R. Steidel, **364/469**; 101/181, 248, 226/9, 29, 111; 318/625; **364/138**, **174**, **471** [IMAGE AVAILABLE]

63. 4,782,452, Nov. 1, 1988, Acoustic detection of milling tool touch to a workpiece; Charles E. Thomas, **364/550**; 73/609, 660; 340/680, 683; **364/508** [IMAGE AVAILABLE]

64. 4,771,792, Sep. 20, 1988, Non-invasive determination of mechanical characteristics in the body; Joseph B. Scale, 128/774; 73/575; 128/649, 677; **364/508** [IMAGE AVAILABLE]

65. 4,764,760, Aug. 16, 1988, Automatic gain **control** for machine tool monitor; James F. Bedard, et al., 340/680; 73/104, 660; 340/683; **364/474.17** [IMAGE AVAILABLE]

66. 4,762,040, Aug. 9, 1988, Blade sharpening and guide mechanism; Bernardo Alcantara Perez, et al., 83/56, 76.8, 174, 940; **451/58**, **420** [IMAGE AVAILABLE]

67. 4,759,243, Jul. 26, 1988, Method and apparatus for optimizing single point machining operations; Robert A. Thompson, **82/1.11** [IMAGE AVAILABLE]

68. 4,758,964, Jul. 19, 1988, Method and apparatus for monitoring machine parts; Gerd Bittner, et al., **364/508**; 73/579, 660; 340/680, 683; **364/506**, **550** [IMAGE AVAILABLE]

69. 4,753,048, Jun. 28, 1988, Method of for grinding; Haruhiko Asada, et al., **451/11**, **26**, **28**, **182** [IMAGE AVAILABLE]

70. 4,724,524, Feb. 9, 1988, **Vibration**-sensing **tool** break and touch detector optimized for machining conditions; Charles E. Thomas, et al., **364/474.17**; 73/104, 660; 340/680; **364/148**, **157**, **474.15**, **474.37**, **508** [IMAGE AVAILABLE]

71. 4,719,586, Jan. 12, 1988, Manufacturing process **control**; John A. Moyer, et al., **364/552**, **183**, **468**, **571.02**, **DIG.2** [IMAGE AVAILABLE]

72. 4,704,693, Nov. 3, 1987, Acoustic tool touch detector with minimized detection delay; Charles E. Thomas, **364/508**; 73/609, 660; 340/680, 683; **364/474.18**, **551.01** [IMAGE AVAILABLE]

73. 4,694,401, Sep. 15, 1987, Apparatus for forming diverse shapes using a look-up table and an inverse transfer function; Toshiro Higuchi, **364/474.11**, **474.02**, **474.29**, **474.35**, **553** [IMAGE AVAILABLE]

74. 4,693,146, Sep. 15, 1987, Method and apparatus for achieving chip separation while machining work pieces; Theodor Dombrowski, et al., **82/118**, **11.5**, **104**, **137**, **904** [IMAGE AVAILABLE]

75. 4,680,998, Jul. 21, 1987, Toric lenses, method and apparatus for making same; Buford W. Council, Jr., **82/1.11**, **12**, **18**, **118**, **137**, **451/422**, **163**, **277** [IMAGE AVAILABLE]

76. 4,667,546, May 26, 1987, Method for achieving chip separation while

machining work pieces; Theodor Dombrowski, et al., **82/104**, **133**, **137**, **904** [IMAGE AVAILABLE]

77. 4,657,451, Apr. 14, 1987, Contact detector for a machine tool; Yuzuru Tanaka, **409/186**, 324/207.17, 207.23, 226; 408/6, 13 [IMAGE AVAILABLE]

78. 4,656,868, Apr. 14, 1987, Method and apparatus for discriminating **cutting** state from non-**cutting** state in machine tool; Hidekazu Azuma, et al., 73/587, 83/72, 340/680; 408/11; **409/194**, **451/9** [IMAGE AVAILABLE]

79. 4,646,754, Mar. 3, 1987, Non-invasive determination of mechanical characteristics in the body; Joseph B. Seale, 128/774; 73/575; 128/649, 677; **364/508** [IMAGE AVAILABLE]

80. 4,642,617, Feb. 10, 1987, Acoustic tool break detection system and method; Charles E. Thomas, et al., 340/680; 73/104, 660; 340/683; **364/474.17** [IMAGE AVAILABLE]

81. 4,640,156, Feb. 3, 1987, Production of short metal fibers; Takeo Nakagawa, et al., **82/1.11**, 29/4.53; 144/42; 407/10, 114, 115 [IMAGE AVAILABLE]

82. 4,638,433, Jan. 20, 1987, Microprocessor controlled garage door operator; Wayne R. Schindler, **364/400**, 49/28; 160/189; 318/264, 265, 266 [IMAGE AVAILABLE]

83. 4,636,780, Jan. 13, 1987, Acoustic monitoring of **cutting** conditions to detect tool break events; Charles E. Thomas, et al., 340/680; 73/104, 660; 340/683; **364/474.17** [IMAGE AVAILABLE]

84. 4,636,779, Jan. 13, 1987, Acoustic detection of tool break events in machine tool operations; Charles E. Thomas, et al., 340/680; 73/104, 660; 340/683; **364/474.17** [IMAGE AVAILABLE]

85. 4,632,612, Dec. 30, 1986, Spindle orientation apparatus; Richard J. Loerch, **409/231**, 408/9 [IMAGE AVAILABLE]

86. 4,631,683, Dec. 23, 1986, Acoustic detection of contact between **cutting** tool and workpiece; Charles E. Thomas, et al., **364/474.01**, 73/609, 613, 660; 318/563; **364/183**, **184**, **474.17**, **474.37**, **508**, 371/5.3, 62, 64; 377/16 [IMAGE AVAILABLE]

87. 4,618,729 Oct. 21, 1986, Method and apparatus for machining racks for steering gear; Arthur E. Bishop, et al., **409/58**, **451/127**, **137**, **215** [IMAGE AVAILABLE]

88. 4,617,503, Oct. 14, 1986, Active datum for coordinate reference in a numerically controlled machine tool; Richard K. Davis, et al., 318/572, 39; **364/474.34** [IMAGE AVAILABLE]

89. 4,606,386, Aug. 19, 1986, Universal profiling machine; Carl R. Walker, 144/134B, 2R, 134A, 137, 145A; **409/220**, **224** [IMAGE AVAILABLE]

90. 4,584,916, Apr. 29, 1986, Lead face machining apparatus; Mamoru Inoue, et al., **82/19**, **147**, 384/12; **409/904** [IMAGE AVAILABLE]

91. 4,584,915, Apr. 29, 1986, **Control** system for a cam follower and tool; Takashi Ichiyangi, et al., **82/19**, **118**, 318/578; **364/474.02**, **409/127** [IMAGE AVAILABLE]

92. 4,565,474, Jan. 21, 1986, Method of generating involute tooth forms with a milling **cutter**; Paul A. S. Charles, **409/51**, **38**, **40**, **55**, **451/147** [IMAGE AVAILABLE]

93. 4,563,897, Jan. 14, 1986, Apparatus for monitoring tool life; Arthur I. W. Moore, 73/587, 104; **364/157**, **474.17** [IMAGE AVAILABLE]

94. 4,562,392, Dec. 31, 1985, Stylus type touch probe system; Richard K. Davis, et al., 318/572; **82/11.2**, 318/39, 632; **364/474.34**, **474.37** [IMAGE AVAILABLE]

95. 4,558,311, Dec. 10, 1985, Method and apparatus for monitoring the tool status in a tool machine with cyclic machining; Roland Forsgren, et al., 340/680; 73/660; **364/474.17** [IMAGE AVAILABLE]

96. 4,554,495, Nov. 19, 1985, Datum reference for tool touch probe system; Richard K. Davis, 318/572, 640; **364/474.3**, **474.34**, **474.37** [IMAGE AVAILABLE]

97. 4,547,847, Oct. 15, 1985, Adaptive **control** for machine tools; Eugene A. Olig, et al., **364/148**, 318/561; **364/164**, **474.15**, **474.17**, **511** [IMAGE AVAILABLE]

98. 4,547,777, Oct. 15, 1985, Method of radio-position-finding through determination of phases of electromagnetic waves and receiving device for practicing the method; Christian Lamirault, 342/394, 395; **364/452**;

455/77, 195.1 [IMAGE AVAILABLE]

99. 4,541,055, Sep. 10, 1985, Laser machining system; Donald L. Wolfe, et al., **364/474.08**, 219/121.82; **364/142**, **400**, **559**; 376/261 [IMAGE AVAILABLE]

100. 4,524,812, Jun. 25, 1985, Modulated forming machine; Peter H. Murphy, 144/134A; 83/72, 477.2; 144/356; 318/39; **409/148**, **183** [IMAGE AVAILABLE]

101. 4,513,376, Apr. 23, 1985, Phasor processing of induction logs including skin effect correction; Thomas D. Barber, **364/422**, 324/339 [IMAGE AVAILABLE]

102. 4,511,977, Apr. 16, 1985, Punch marker height **control**; Daryl Schuetzpelz, **364/474.34**, **474.35**, **569**; 377/16 [IMAGE AVAILABLE]

103. 4,510,717, Apr. 16, 1985, Lens finishing apparatus; Dewayne J. Sherwin, **451/163**; D15/124, 125 [IMAGE AVAILABLE]

104. 4,486,866, Dec. 4, 1984, Seismic exploration using non-impulsive vibratory sources activated by stationary, Gaussian codes, and processing that results in distortion-free final records particularly useful in stratigraphic trap determination; Francis Muir, 367/39; **364/421**; 367/100 [IMAGE AVAILABLE]

105. 4,484,931, Nov. 27, 1984, Thread grinder; Anthony Kushigian, **451/222**, **141** [IMAGE AVAILABLE]

106. 4,471,436, Sep. 11, 1984, Phasor processing of induction logs including shoulder and skin effect correction; Richard T. Schaefer, et al., **364/422**, 324/339 [IMAGE AVAILABLE]

107. 4,467,425, Aug. 21, 1984, Deconvolution filter for induction log processing; Richard T. Schaefer, et al., **364/422**, 324/339 [IMAGE AVAILABLE]

108. 4,460,275, Jul. 17, 1984, Method and apparatus adapted for automatic or semi-automatic fabrication of ultra-precision ophthalmic lenses, e.g., contact lenses; Robert G. Spriggs, 356/358, 363; **451/6**, **42** [IMAGE AVAILABLE]

109. 4,451,187, May 29, 1984, Machine tool; Michio Ishikawa, et al., **409/187**, 408/11, 17; **409/186**, **194** [IMAGE AVAILABLE]

110. 4,441,103, Apr. 3, 1984, Unusual vibration transducer apparatus in machine tools; Hirokuni Urabe, 340/680, 683; **364/474.17**, **451/11** [IMAGE AVAILABLE]

111. 4,434,581, Mar. 6, 1984, Apparatus adapted for automatic or semi-automatic fabrication of ultra-precision ophthalmic lenses, e.g., contact lenses; Robert G. Spriggs, **451/173**, **82/11**, **451/42** [IMAGE AVAILABLE]

112. 4,422,265, Dec. 27, 1983, Multistation grinding machine; Keith Branston, **451/147**, **409/158**, **198**, **451/64**, **413**; D15/124 [IMAGE AVAILABLE]

113. 4,419,912, Dec. 13, 1983, Vibration threading **lathe** for precision screw **cutting**; Tatuot Sotome, et al., **82/110**, **11.1**, **904** [IMAGE AVAILABLE]

114. 4,417,489, Nov. 29, 1983, Method and apparatus for machining a workpiece by varying the tool geometry; Chunghong R. Liu, **82/1.11**, **158** [IMAGE AVAILABLE]

115. 4,412,465, Nov. 1, 1983, Tool compensator; Lawrence B. Wright, **82/1.2**, **118**, **133**; 408/12, 13, 130 [IMAGE AVAILABLE]

116. 4,410,970, Oct. 18, 1983, Method and apparatus for measuring and analyzing sound characteristics of record discs; Kenneth S. K. Law, 369/58; 73/659; 324/76.12; **364/485** [IMAGE AVAILABLE]

117. 4,409,659, Oct. 11, 1983, Programmable power supply for ultrasonic applications; Janet Devine, **364/474.16**, **82/118**, 83/701, 956; 228/1.1, 7, 8, 110.1; **364/474.02**, **508**, **511**; 408/700 [IMAGE AVAILABLE]

118. 4,393,624, Jul. 19, 1983, Thread grinder; Anthony Kushigian, **451/24**, **72**, **222** [IMAGE AVAILABLE]

119. 4,385,473, May 31, 1983, Method for frequency regulation of tuning-fork vibrator; Shigeo Aoki, et al., **451/1**; 29/25.35; 310/312, **451/57** [IMAGE AVAILABLE]

120. 4,356,376, Oct. 26, 1982, Pulse laser pretreated machining; Ranga Komanduri, et al., 219/121.72; 29/27C; **82/1.11**, 219/121.67, 121.68, 121.69, 121.7, 121.71, 121.84 [IMAGE AVAILABLE]

121. 4,355,310, Oct. 19, 1982, Well logging communication system; Antoine Belaigues, et al., 340/853.2, 825.54, 855.4; **364/422** [IMAGE AVAILABLE]

122. 4,346,461, Aug. 24, 1982, Seismic exploration using vibratory sources, sign-bit recording, and processing that maximizes the obtained subsurface information; Francis Muir, 367/39, **364/421**; 367/100 [IMAGE AVAILABLE]

123. 4,328,549, May 4, 1982, Process flow **computer** **control** system; Cecil T. Avery, **364/469**; 264/40.7, 321; **364/476**; 425/145; 521/918 [IMAGE AVAILABLE]

124. 4,292,769, Oct. 6, 1981, Balancing and monitoring apparatus; Willi Maag, et al., **451/9**; 73/468; 74/573R; **451/11**, **343** [IMAGE AVAILABLE]

125. 4,272,924, Jun. 16, 1981, Method of ultrasonic **control** for lapping and an apparatus therefor; Masami Masuko, et al., **451/1**; 73/597; 367/96; **451/41**; **269**; **287** [IMAGE AVAILABLE]

126. 4,272,812, Jun. 9, 1981, Numerical **control** apparatus for stepped feeding at punch and nibbling machines; Sven L. I. Svensson, **364/474.02**; 83/76.8, 203, 277, 916; 318/39, 603; **364/474.28**; **474.32** [IMAGE AVAILABLE]

127. 4,268,999, May 26, 1981, Automatic polishing apparatus; Koichi Noto, et al., **451/5**; **6** [IMAGE AVAILABLE]

128. 4,249,538, Feb. 10, 1981, Electronic clinic apparatus; Toshimitsu Misha, et al., 128/630, 639, 696, 709; **364/413.05**; **413.06**; 505/846 [IMAGE AVAILABLE]

129. 4,227,405, Oct. 14, 1980, Digital mineral logging system; Jerry B. West, 340/853.8; 33/313; 340/853.9, 855.3, 855.5; **364/422**; 367/81 [IMAGE AVAILABLE]

130. 4,227,404, Oct. 14, 1980, Digital mineral logging system; Jerry B. West, 73/151; **364/422** [IMAGE AVAILABLE]

131. 4,209,951, Jul. 1, 1980, Piston ring honing; Robert H. Gillette, **451/1**; **51**; **173** [IMAGE AVAILABLE]

132. 4,207,708, Jun. 17, 1980, Piston ring honing; Robert H. Gillette, **451/173**; **140** [IMAGE AVAILABLE]

133. 4,195,250, Mar. 25, 1980, Automatic measuring and tool position compensating system for a numerically controlled machine tool; Tamotsu Yamamoto, 318/561, 572, 626, 632, 634; **364/474.35**; **474.37** [IMAGE AVAILABLE]

134. 4,188,936, Feb. 19, 1980, Method for increasing the **cutting** performance of reciprocating slurry saws and a reciprocating slurry saw for carrying out this method; Alfred Stauffer, 125/16.01; **451/41**; **165** [IMAGE AVAILABLE]

135. 4,181,029, Jan. 1, 1980, Multi-axis, complex mode pneumatically actuated annular frame shaker for quasi-random pneumatic vibration facility; Charles F. Talbott, Jr., 73/665; **364/508** [IMAGE AVAILABLE]

136. 4,181,026, Jan. 1, 1980, Quasi-random pneumatic vibration facility and automatic frequency modulating system therefor; Henry T. Abstein, Jr., et al., 73/665; **364/508** [IMAGE AVAILABLE]

137. 4,181,025, Jan. 1, 1980, Means for adjusting the area of an orifice in a vibration system; Henry T. Abstein, Jr., et al., 73/665; 251/304; **364/508** [IMAGE AVAILABLE]

138. 4,177,700, Dec. 11, 1979, **Turning** machine tool; Eberhard van der Horst, **82/117**; **129** [IMAGE AVAILABLE]

139. 4,175,537, Nov. 27, 1979, Dressing arrangement for grinding wheel of a gear form grinding machine; Dieter Wiener, 125/11.03; **451/47** [IMAGE AVAILABLE]

140. 4,154,024, May 15, 1979, Electric **control** device for an automatic grinding machine; Frank D. Rajczi, **451/8** [IMAGE AVAILABLE]

141. 4,130,073, Dec. 19, 1978, Automatic sewing machine; Koya Kimura, et al., 112/470.06, 470.07; **409/79** [IMAGE AVAILABLE]

142. 4,114,486, Sep. 19, 1978, **Lathe** for generating spherical or aspherical surfaces on workpieces, method for generating aspherical surfaces on workpieces and workpiece having aspherical surface; Derrell C. Hooker, **82/12**; **451/277** [IMAGE AVAILABLE]

143. 4,095,916, Jun. 20, 1978, Timed intermittent air propelled liquid coolant system for machine tools; Earl J. Hammond, 408/1R; **82/1.11**; 407/11; 408/59, 61; **409/136** [IMAGE AVAILABLE]

144. 4,068,414, Jan. 17, 1978, Automatic flute grinding machine; Charles Thomas Breitenstein, et al., **451/4**; **48** [IMAGE AVAILABLE]

145. 4,058,938, Nov. 22, 1977, Method and apparatus for grinding the tooth flanks of internally-toothed gear wheels; Hermann Harle, et al., **451/47**; **409/33**; **451/121**; **147** [IMAGE AVAILABLE]

146. 4,047,469, Sep. 13, 1977, Method for suppressing chatter **vibrations** in a machine **tool**; Okitsugu Sakata, **409/132**; **82/1.11**; **904**; 408/143; **409/141** [IMAGE AVAILABLE]

147. 4,045,919, Sep. 6, 1977, High speed grinding spindle; Sadao Moritomo, **451/11**; **27**; **294** [IMAGE AVAILABLE]

148. 4,045,917, Sep. 6, 1977, Gear grinding machine; Herbert Loos, et al., **451/275** [IMAGE AVAILABLE]

149. 4,031,368, Jun. 21, 1977, Adaptive **control** of **cutting** machining operations; Bertil Colding, et al., **364/474.15**; **82/1.11**; 356/371, 373, 384, 447, 448; **364/474.02**; **474.17**; **511** [IMAGE AVAILABLE]

150. 4,027,245, May 31, 1977, Numerically controlled machine tool; Pierre Bourrat, et al., **364/474.06**; **474.31**; **451/5**; **251** [IMAGE AVAILABLE]

151. 4,019,288, Apr. 26, 1977, Grinding method and apparatus; Sadao Moritomo, **451/11**; **27**; **58** [IMAGE AVAILABLE]

152. 4,014,227, Mar. 29, 1977, Wire guided roll crowning attachment for **lathe**; Richard J. Adams, **82/173**; 33/613; **82/11**; 408/13; **451/142** [IMAGE AVAILABLE]

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154. 3,936,828, Feb. 3, 1976, VLF navigation system; Allen R. Muesse, et al., 342/394; **364/452** [IMAGE AVAILABLE]

155. 3,934,376, Jan. 27, 1976, Apparatus for controlling the operation of a grinding wheel; Tuyoshi Tamesui, et al., **451/25** [IMAGE AVAILABLE]

156. 3,906,207, Sep. 16, 1975, **Control** system of the analogue-digital-analogue type with a digital **computer** having multiple functions for an automobile vehicle; Jean-Pierre Rivere, et al., **364/425**; 73/117.3; 123/416, 486, 493, 571 [IMAGE AVAILABLE]

157. 3,903,653, Sep. 9, 1975, Lapping machine; Harold J. Imhoff, et al., **451/26**; **164** [IMAGE AVAILABLE]

158. 3,898,767, Aug. 12, 1975, Automatic recipro-finishing machine; Hisamine Kobayashi, **451/113**; **11**; **334** [IMAGE AVAILABLE]

159. 3,889,520, Jun. 17, 1975, Fluidic system for monitoring machine tool wear during a machining operation; Theodor Stoerle, et al., 73/37.5, 104; **82/118**; 407/11, 120 [IMAGE AVAILABLE]

160. 3,857,025, Dec. 24, 1974, NUMERICALLY CONTROLLED ENGRAVING MACHINE SYSTEM; Myrle H. English, et al., **364/474.02**; 33/23.01; 318/568.1; **364/131**; **193**; **474.22**; **474.32**; **578**; **409/80**; **84** [IMAGE AVAILABLE]

161. 3,849,940, Nov. 26, 1974, HONING MACHINE; Tsutomu Yoshino, et al., **451/27**; **150** [IMAGE AVAILABLE]

162. 3,841,149, Oct. 15, 1974, TOOL WEAR DETECTOR; Allan I. Edwin, et al., 73/659, 104; **364/508**; **551.02** [IMAGE AVAILABLE]

163. 3,827,334, Aug. 6, 1974, NUMERICALLY CONTROLLED ENGRAVING MACHINE SYSTEM; Myrle H. English, et al., **409/80**; 125/6; 173/190; **409/216** [IMAGE AVAILABLE]

164. 3,817,647, Jun. 18, 1974, TOOL **CONTROL** ARRANGEMENT; Jerome H. Lemelson, 408/8; **82/900**; 408/6 [IMAGE AVAILABLE]

165. 3,788,009, Jan. 29, 1974, CONTROLLED TOOL FOR MACHINING COMPOUND SURFACES; Thurston V. Williams, et al., **451/1**; **72**; **237** [IMAGE AVAILABLE]

166. 3,784,798, Jan. 8, 1974, ADAPTIVE MACHINING; Bruce R. Beadle, et al., **451/11**; **27**; **58** [IMAGE AVAILABLE]

al., **364/474.15**, **153**, **156**, **474.16** [IMAGE AVAILABLE]

167. 3,769,762, Nov. 6, 1973, METHOD FOR CONTROLLED LAPING OF OPTICAL SURFACES TO CORRECT DEVIATIONS FROM DESIRED CONTOURS; Marvin J. Mayo, **451/42** [IMAGE AVAILABLE]

168. 3,757,638, Sep. 11, 1973, FIVE-AXIS SHAPER; Joseph Martin, **409/335**, 74/842; 173/160; 408/135, 235; **409/337** [IMAGE AVAILABLE]

169. 3,738,225, Jun. 12, 1973, METHOD FOR MACHINING GROOVES AND GEAR TEETH; Michel Tixier, **409/122**, **20**, **34** [IMAGE AVAILABLE]

170. 3,736,113, May 29, 1973, SPIRAL GRINDING RELIEVING MACHINE WITH TANDEM PLANETARY DIFFERENTIAL DRIVE; Walter Umbdenstock, et al., **451/374**, **220**, **221**, **394**, **465** [IMAGE AVAILABLE]

171. 3,735,534, May 29, 1973, APPARATUS FOR CONTROLLED LAPING OF OPTICAL SURFACES TO CORRECT DEVIATIONS FROM DESIRED CONTOURS; Marvin J. Mayo, **451/162**, **6**, **173** [IMAGE AVAILABLE]

172. 3,720,814, Mar. 13, 1973, DIRECT NUMERICAL **CONTROL** SYSTEM; John Klein, **364/138**, 318/569, 573; **364/474.11**, **474.31** [IMAGE AVAILABLE]

173. 3,713,254, Jan. 30, 1973, CONTROLLED TOOL FOR MACHINING COMPOUND SURFACES; Thurston V. Williams, et al., **451/125**, **237**, **374** [IMAGE AVAILABLE]

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175. 3,688,447, Sep. 5, 1972, GRINDING MACHINE; Herbert R. Uhlenwoldt, et al., **451/226**, **25** [IMAGE AVAILABLE]

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22. 5,187,669, Feb. 16, 1993, Programmable surface sensor for machining rough stock; Douglas G. Wildes, et al., **364/474.17**, **474.16** [IMAGE AVAILABLE]

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29. 5,113,728, May 19, 1992, Method and apparatus for forming intermittent chips when machining a rotating workpiece; Ludwik A. Medeksz, **82/1.11**, **134**, **137**, **904**; 408/1R, 17 [IMAGE AVAILABLE]

31. 5,101,599, Apr. 7, 1992, Ultrasonic machine having amplitude **control** unit; Hideki Takabayasi, et al., **451/165**, 83/701; 173/11; **451/11**, **910** [IMAGE AVAILABLE]

36. 5,050,468, Sep. 24, 1991, Method and apparatus for **cutting** a circumferential serpentine groove in a workpiece using an engine **lathe**; James D. Nydiger, **82/1.11**, **18**, **118**, **134**; **364/474.02** [IMAGE AVAILABLE]

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52. 4,911,044, Mar. 27, 1990, Ultrasonic vibration **cutting** device; Shoji Mishiro, et al., **82/158**, **160**, **904** [IMAGE AVAILABLE]

74. 4,693,146, Sep. 15, 1987, Method and apparatus for achieving chip separation while machining work pieces; Theodor Dombrowski, et al., **82/188**, **111.5**, **104**, **137**, **904** [IMAGE AVAILABLE]

111. 4,434,581, Mar. 6, 1984, Apparatus adapted for automatic or semi-automatic fabrication of ultra-precision ophthalmic lenses, e.g., contact lenses; Robert G. Spriggs, **451/173**, **82/11**, **451/42** [IMAGE AVAILABLE]

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158. 3,898,767, Aug. 12, 1975, Automatic recipro-finishing machine; Hisamine Kobayashi, **451/113**, **11**, **334** [IMAGE AVAILABLE]

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